Abstract for an Invited Paper
for the Washington DC Meeting of
The American Physical Society
18-22 April 1994

Organizing the U. S. Global Change Research Program to Address Critical Questions*

M. C. MacCRACKEN
Office of the U. S. Global Change Research Program, Washington DC .

The U. S. Global Change Research Program (USGCRP) was established in 1989 with the goal of improving the predictive understanding of the Earth system in support of national and international policymaking activities. The program combines the research efforts of eleven departments and agencies of the Federal government to reduce uncertainties and improve confidence in knowledge concerning the natural and human-induced changes now occurring in the Earth's life-sustaining environmental envelope. Over the USGCRP's first four years, the program has been implemented through a priority-driven scientific research agenda that has been developed to be integrated, comprehensive, and multi-disciplinary. The program has been designed explicitly to address uncertainties in such areas as climate change, ozone depletion, changes in terrestrial and marine productivity, global water and energy cycles, sea level changes, the impact of global change on human health and activities, and the impact of anthropogenic activities on the Earth system.

The Global Change Research Act of 1990 (Public Law 101-606) requires the development of a "National Global Change Research Plan" every three years. The plan is intended to lay out the goals and priorities for Federal global change research with a ten-year time horizon. The USGCRP is now in the process of preparing this updated plan. This update will include expanded activities in such program aspects as the natural and societal impacts of global change and the integration of research with policymaking (e.g., by improving the basis for comprehensive assessments of strategies and technologies for identifying and evaluating policies for dealing with global change). To improve the visibility of the linkage between science and policy, the plan is being formulated around critical scientific questions, phrased in a manner to be of interest to policymakers. These critical questions focus on those aspects of global change that will most directly affect societal activities, including: the rate of change; impacts on water, forests, agricultural production, and other resources; and what options there are to reduce adverse consequences.

*The author is on assignment to the National Science Foundation from the Lawrence Livermore National Laboratory under an Intergovernmental Personnel Assignment agreement. The Lawrence Livermore National Laboratory is operated by the University of California for the U.S. Department of Energy under contract W-7405-ENG-48.